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#### BIHAR ELECTRICITY REGULATORY COMMISSION

##### NOTIFICATION

*The 2<sup>nd</sup> April 2018*

No. BERC-SMP No.-36/2017-01— In exercise of powers conferred under sections 61, 66, 86(1)(e) and 181 of the Electricity Act, 2003 (Act 36 of 2003) and all other powers enabling it in this behalf, and after previous publication, the Bihar Electricity Regulatory Commission hereby makes the following regulations for the grid connected Solar Rooftop Photovoltaic system:

**1. Short title, extent and commencement.—**

- 1.1** These regulations may be called the **Bihar Electricity Regulatory Commission (Rooftop Solar Grid Interactive Systems Based on Net and Gross Metering) Regulations, 2018.**
- 1.2** These Regulations extend to the whole of the State of Bihar.
- 1.3** These regulations shall come into force from the date of their notification in the Official Gazette of Government of Bihar.

**2. Definitions and Interpretations**

**2.1** In these Regulations, unless the context otherwise requires:

- a) "**Act**" means the Electricity Act, 2003 (36 of 2003) and subsequent amendments thereof;
- b) "**Agreement**" means an agreement entered into by the Distribution licensee and the eligible consumer;
- c) "**Authority**" means Central Electricity Authority referred to in sub-section (1) of Section 70 of the Act;
- d) "**Billing cycle or billing period**" means the period for which regular electricity bills as specified by the Commission, are prepared for different categories of consumers by the licensee;

- e) **"Commission"** means the Bihar Electricity Regulatory Commission constituted under the Act;
- f) **"Consumer"** means any person who is supplied with electricity for his own use by a licensee or the Government or by any other person engaged in the business of supplying electricity to the public under this Act or any other law for the time being in force and includes any person whose premises are, for the time being, connected for the purpose of receiving electricity with the works of a distribution licensee, the Government or such other person, as the case may be;
- g) **"Contracted load"** or **"Contract demand"** means the maximum demand in kW, kVA or BHP, agreed to be supplied by the licensee and indicated in the agreement executed between the licensee and the consumer;
- h) **"Distribution licensee"** or **"Licensee"** means a person granted a license under Section 14 of the Act authorizing it to operate and maintain a distribution system for supplying electricity to the consumers in its area of supply;
- i) **"Electricity Supply Code"** means the Bihar Electricity Supply Code 2007 specified by the Commission under section 50 of the Act and subsequent amendments thereof;
- j) **"Eligible consumer"** means a consumer of electricity in the area of supply of the distribution licensee, who uses a rooftop solar system installed in the consumer premises, to offset part or all of the consumer's own electrical requirements, given that such systems can be self-owned or third party owned;
- k) **"Financial year"** or **"Year"** means the period beginning from first of April in an English calendar year and ending with the thirty first of the March of the next year;
- l) **"Gross Meter"** means a unidirectional energy meter installed at the point at which the electricity generated by solar energy system of the eligible consumer is delivered to the grid of the distribution licensee;
- m) **"Gross metering"** means an arrangement for measurement of energy in a system under which rooftop PV solar system installed in consumer premises delivers total electricity generated, to the distribution licensee;
- n) **"Government"** means the Government of Bihar;
- o) **"Inter connection point"** means the interface of solar power generation facility system with the network of distribution licensee;
- p) **"Invoice"** means either a Monthly Bill / Supplementary Bill or a Monthly Invoice/ Supplementary Invoice raised by the distribution licensee;
- q) **"kWp"** means kilo Watt peak;
- r) **"Net meter"** means a bi-directional energy meter capable of recording both import and export of electricity or a pair of meters one each for recordings the import and export of electricity as the case may be; which shall be an integral part of the net metering system;

- s) **"Net metering"** means an arrangement for measurement of energy in a system under which rooftop solar system installed in consumer premises delivers surplus electricity; if any, to the distribution licensee;
  - t) **"Obligated entity"** means the entity mandated under clause (e) of subsection (1) of section 86 of the Act to fulfil the renewable purchase obligation and identified under Bihar Electricity Regulatory Commission (RPO its Compliance and REC Framework Implementation) Regulations, 2010 and subsequent amendments thereof;
  - u) **"Premises"** means rooftops or/and elevated areas on the land, building or any other structure or part or combination thereof in respect of which separate meter or metering arrangements have been made by the licensee for supply of electricity;
  - v) **"Rooftop PV solar system"** means the solar photovoltaic power system installed on the rooftops or any other structure in consumer premises that uses sunlight for direct conversion into electricity through photovoltaic technology;
  - w) **"Renewable Energy Certificate (REC)"** means the certificate issued in accordance with the procedures approved by the Central Electricity Regulatory Commission;
  - x) **"Settlement period"** means the period beginning from first of April in an English calendar year and ending with the thirty first of the March of the next year;
  - y) **"Solar meter"** means a unidirectional energy meter installed as an integral part of the net or gross metering system, at the point at which the electricity generated by solar energy system is delivered to the main panel of the eligible consumer;
  - (y) **"Tariff order"** in respect of a licensee means the most recent order issued by the Commission for that licensee indicating the rates to be charged by the licensee from various categories of consumers for supply of electrical energy and services and its validity has not expired.
  - aa) **"Third party owner"** means a developer who is generating solar energy on a rooftop not owned by him but on a consumer's rooftop by entering into a lease/ commercial agreement with the rooftop owner;
- 2.2** All other words and expressions used in these Regulations although not specifically defined herein above, but defined in the Act, shall have the meaning assigned to them in the Act. The other words and expressions used herein but not specifically defined in these Regulations or in the Act but defined under any law passed by the Parliament applicable to the electricity industry in the State shall have the meaning assigned to them in such law.
- 3. Scope and Application**
- 3.1** These Regulations shall apply to the distribution licensee and eligible consumers of electricity of distribution licensee of the State of Bihar.
- 3.2** The eligible consumer may install the rooftop solar system under net or gross metering arrangement which,
- a) shall be within the permissible rated capacity as defined under these Regulations.
  - b) shall be located in the consumer premises.

- c) shall interconnect and operate safely in parallel with the distribution licensee network.

**3.3** The capacity of the solar energy system to be installed at the premises of any eligible consumer under these Regulations shall not be less than one KWp and shall not exceed sanctioned/contracted load of the eligible consumer.

Provided that these regulations do not preclude the right of State Government to undertake rooftop solar projects of larger capacity through alternative mechanisms.

**4. General Principles**

**4.1** The distribution licensee shall offer the provision of net or gross metering arrangement to the eligible consumer including third party owners, who intends to install grid connected rooftop solar system, in its area of supply on non-discriminatory and first come first serve basis.

Provided that in case of gross metering arrangement owned by third party, the third party owner shall enter into an agreement with the distribution licensee.

Provided further that the distribution licensee shall offer the provision of net or gross metering to the eligible consumer for the target capacity as specified under these Regulations;

Provided also that the eligible consumer is eligible to install the grid connected rooftop solar system of the rated capacity as specified under these Regulations.

Provided further that the interconnection of such system with the grid is undertaken as per technical standards specified by the Central Electricity Authority.

**4.2** The eligible consumers availing net metering facility under these regulation shall not be allowed to avail gross metering facility.

Provided that the eligible consumers availing either net metering or gross metering facility under these regulations shall not be allowed to avail banking facility.

**4.3** The distribution licensee, within three months from the appointment date, shall issue guidelines and procedures on connectivity of net or gross metering in its licensed area.

**5. Capacity Targets for Distribution Licensee**

**5.1** The distribution licensee shall provide net or gross metering arrangement to eligible consumers as long as the total capacity (in MW) does not exceed the target capacity determined by the Commission;

Provided a maximum cumulative capacity of 100MW shall be allowed to eligible consumers under net metering, on yearly basis, in the area of supply of the distribution licensee;

Provided further that the cumulative capacity to be allowed at a particular distribution transformer shall not exceed 80% of the capacity of the distribution transformer;

**5.2** The distribution licensee shall update distribution transformer level capacity available for connecting rooftop solar systems under net or gross metering arrangement on yearly basis and shall provide the information on its website as well as to the Commission.

**6. Eligible Consumer and Individual Project Capacity**

**6.1** All eligible consumers of electricity in the area of supply of the distribution licensee can participate in the solar rooftop net or gross metering arrangement (reference to sub clause 2.1(j) of these Regulations).

- 6.2** The maximum rooftop solar system capacity to be installed at any eligible consumer premises shall be governed by the eligibility of interconnection with the grid for that eligible consumer. The maximum capacity of an individual rooftop PV system would be equal to the sanctioned load of the consumer.

- 6.3** The installation of net or gross metered rooftop solar systems on eligible consumer premises will utilize the same service line and installation for injection of excess power into the grid, which is currently being used by the consumer for drawal of power from the distribution licensee.

Provided that the installation of gross-metered rooftop solar systems on the eligible consumer premises intending to inject its total generated power into the grid shall use separate service line. Such service line up to the nearest service pole/ distribution transformer, as the case may be, shall be laid by the eligible consumer at its own cost

**7. *Interconnection with the Grid***

- 7.1** The interconnection of the rooftop solar system with the network of the distribution licensee shall conform to the technical specifications, standards and provisions as provided in the Central Electricity Authority (Technical Standards for Connectivity of the Distributed Generation resources) Regulations, 2013 as amended from time to time.

The distribution Licensee shall also ensure that interconnection of rooftop solar power system with the distribution system of the Licensee conforms to the relevant provisions of the Central Electricity Authority (Measures related to Safety and Electric Supply) Regulations, 2010 as amended from time to time.

The net or gross meter and solar meter installed should conform to the standards, specifications and accuracy class as provided in the Central Electricity Authority (Installation and operation of Meters) Regulations, 2006, as amended from time to time and are installed in such a way that they are accessible for reading.

- 7.2** The Rooftop Solar power producer may install grid interactive solar power system with or without battery backup.

Provided that if the Solar Energy Generator, prefers connectivity with battery backup (full load backup/partial load backup), in all such cases the inverter shall have separate backup wiring to prevent the battery/Solar power to flow into the grid in the absence of grid supply and manual isolation switch shall also be provided.

- 7.3** The solar power producer shall be responsible for safe operation, maintenance and rectification of any defect of the solar Energy system up to the point of net or gross Meter beyond which the responsibility of safe operation & maintenance shall rest with the distribution Licensee.

- 7.4** The distribution licensee shall have the right to disconnect the Solar Energy System at any time in the event of possible threat/damage to its distribution system.

**8. *Energy Accounting and Settlement***

- 8.1 Net metering arrangement-** For each billing period, the licensee shall show the quantum of injected electricity by eligible consumer in the billing period, supplied electricity by distribution licensee in the billing period, net billed electricity for payment by the eligible consumer for that billing period and net carried over electricity to the next billing period separately;

Provided that in the event the electricity injected exceeds the electricity supplied during the billing period, such excess injected electricity shall be carried forward to next billing period as electricity credit and may be utilized to net electricity injected or consumed in future billing periods;

Provided further that any excess injected electricity remains unadjusted at the end of the settlement period, neither payment shall be made by the distribution licensee nor shall be carried forward to the next settlement period.

Provided also that in the event the electricity supplied by the distribution licensee during any billing period exceeds the electricity generated by the eligible consumer's rooftop solar system, the distribution licensee shall raise invoice for the net electricity consumption after taking into account any electricity credit balance remaining from previous billing periods; The net energy imported has to be billed by the distribution licensee as per tariff in force applicable to that category of eligible consumers.

Provided, in case the eligible customer is under the ambit of Time of Day tariff (TOD), as determined by the Commission from time to time, the electricity consumption in any time block (e.g., peak hours, off-peak hours, etc.) shall be first compensated with the electricity generation in the same time block. Any cumulated excess generation over consumption in any other time block in a billing cycle shall be accounted as if the excess generation occurred during the off-peak time block.

Provided also that the excess electricity measured in kilo-watt hour or kilo-volt-ampere hour, as the case may be, may only be utilized to offset the consumption measured in kilo-watt hour or kilo-volt-ampere hour and may not be utilized to compensate any other fee and charges imposed by the distribution licensee as per the instructions of Bihar Electricity Regulatory Commission.

Provided also that the distribution licensee in addition to consumer tariff shall be eligible to raise invoice for any other charges as allowed by the Bihar Electricity Regulatory Commission.

- 8.2 Gross-metering arrangement-** The distribution licensee shall undertake meter readings for each billing period. The licensee shall also undertake energy accounting and settlement with eligible the consumer or the third party owner.

For each billing period, the licensee shall show the quantum of injected electricity by eligible consumer in the billing period and shall make payment to the eligible consumer or the third party, as the case may be, for the quantum of such injected electricity.

Provided that the quantum of injected electricity to be paid by the distribution licensee shall be at the Feed-in Tariff approved by the Commission for the relevant year.

- 8.3** In case of any dispute in billing, it would be settled by the Consumer Grievance Redressal Forum and if dispute still remains unresolved, the same shall be settled by the Bihar Electricity Regulatory Commission following appropriate procedure.

- 9. Solar Renewable Purchase Obligation.**—The quantum of electricity consumed by eligible consumer, who is not defined as obligated entity, from the rooftop solar system under net-metering arrangement shall qualify towards compliance of Solar Renewable Purchase Obligation for the distribution licensee. Similarly, the quantum of electricity from the

rooftop solar system under gross-metering arrangement, sold to the third party (other than the licensee) who is not defined as obligated entity, shall also qualify towards compliance of Solar Renewable Obligation (Solar RPO) for the distribution licensee.

10. The distribution licensee shall allow non-discriminatory open access to rooftop solar producer under net or gross metering arrangement, whether self owned or third party owned, in the event of sale of power to the third party or to a captive generator.

Provided that the rooftop solar produce under net or gross metering arrangement, whether self owned or third party owned, shall be exempted from banking and wheeling charges and cross subsidy charges.

11. **Eligibility to Participate under Renewable Energy Certificate Mechanism.**—The issuance of renewable energy certificate shall be as per the eligibility criteria specified under Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 and subsequent amendments thereof;

12. **Metering Arrangement**

- 12.1 The metering system shall be as per the provisions of CEA (Installation & operation of meters) Regulations, 2006, CEA (Measures relating to Safety and electricity supply) Regulations, 2010 and CEA (technical standards for Connectivity of the distributed generation resources), Regulations, 2013 as amended from time to time and in compliance with the norms fixed by BERC/CERC from time to time.

- 12.2 The eligible consumer shall install Net/Gross Meter at the interconnection point of the eligible consumer with the network of distribution licensee. The eligible consumer shall also install solar meter at the delivery point of the solar energy system to measure the solar energy generated.

- 12.3 Check meters shall be mandatory for rooftop solar systems having capacity more than 20 kW. For installations size of less than and equal to 20 kW, the solar Check meters would be optional.

- 12.4 The Meter shall be tested, installed and sealed in accordance with the provisions of CEA (Installation and operation of Meters) Regulations, 2006 as amended from time to time and provisions under Bihar Electricity Supply Code, 2007 or any other relevant regulations in force. It shall be jointly inspected and sealed by the licensee on behalf of both the parties. It shall be tested by the licensee and installed in presence of eligible consumer and the licensee with due acknowledgement.

Provided that the eligible consumer shall follow the metering specifications, provisions for placement of meter as developed by the distribution licensee from time to time and as per the Bihar Electricity Supply Code, 2007 or any other relevant regulations in force.

Provided further that in case the eligible consumer is under the ambit of Time of Day tariff, meters compliant of recording time of day consumption/generation shall be employed.

- 12.5 The meter reading, both net/gross meter and solar meter shall be taken by the distribution licensee and shall form the basis of commercial settlement. The copy of the meter reading statement shall be handed over to consumer as soon as meter reading is taken.

13. **Penalty or Compensation.**—In case of failure of net metering system, the provisions of compensation shall be as per the provisions of the standard of performance regulations for distribution licensee.  
Notwithstanding above, the Commission may also initiate proceeding under Section 142 of the Act for imposition of penalty, if it is satisfied that the distribution licensee has contravened or likely to contravene any provisions of these Regulation.
14. **Power to give Directions .**—The Commission may from time to time issue such directions and orders as considered appropriate for the implementation of these Regulations.
15. **Power to Remove difficulties.**—If any difficulty arises in giving effect to the provisions of these Regulations, the commission may by general or special order, for reasons to be recorded in writing, and after giving an opportunity of hearing to the parties likely to be affected may make such provisions not inconsistent with the provisions of the Act, which, in the opinion of the Commission, appear necessary or expedient for removing such difficulty.
16. **Power to Amend.**—The Commission may from time to time add, vary, alter, suspend, modify, amend or repeal any provisions of these Regulations.
17. **Repeal and Saving.**—Save and otherwise provided in these Regulations, The BERC (Rooftop Solar Grid Interactive System Based on Net Metering) Regulations, 2015 are hereby repealed

By the order of the Commission,  
PARMANAND SINGH,  
Secretary.

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